

Application Serial No. 10/587,069  
Reply to Office Action of April 30, 2008

PATENT  
Docket: CU-4970  
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**Amendments to the Claims**

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

**Listing of claims:**

1-10. (canceled)

11. (currently amended) A liquid crystal display comprising a ferroelectric liquid crystal sandwiched between two substrates,

wherein an electrode and a photo alignment layer are each successively formed on opposite faces of the two substrates facing each other;

wherein a constituent material of the respective photo alignment layer is a photoreactive material which generates a photoreaction to give anisotropy to the photo alignment layer; and

the constituent material of the respective photo alignment layer has a different composition from each other with the ferroelectric liquid crystal sandwiched therebetween; and

wherein the ferroelectric liquid crystal is a liquid crystal; having no smectic A phase in a phase series thereof, exhibiting mono-stability and undergoing half-V-shaped driving; and

further wherein the ferroelectric liquid crystal forms mono-domain alignment in a liquid crystal layer.

12. (previously presented) The liquid crystal display according to claim 11, wherein the photoreaction is a photo-dimerization reaction or a photo decomposition reaction.

13. (previously presented) The liquid crystal display according to claim 11, wherein the photoreactive material comprises a photo-dimerization-reactive compound having a radical-polymerizable functional group and dichroism that different

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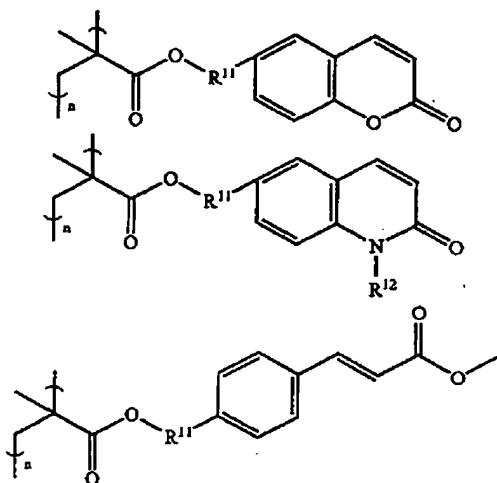
absorptivities are exhibited depending on a polarization direction thereof.

14. (previously presented) The liquid crystal display according to claim 12, wherein the photoreactive material comprises a photo-dimerization-reactive compound having a radical-polymerizable functional group and dichroism that different absorptivities are exhibited depending on a polarization direction thereof.

15. (previously presented) The liquid crystal display according to claim 13, wherein the photo-dimerization-reactive compound is a dimerization-reactive polymer containing, as its side chain, any one of cinnamic acid ester, coumarin, and quinoline.

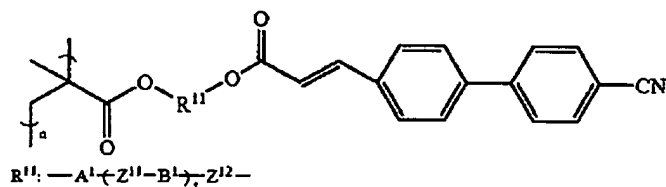
16. (previously presented) The liquid crystal display according to claim 14, wherein the photo-dimerization-reactive compound is a dimerization-reactive polymer containing, as its side chain, any one of cinnamic acid ester, coumarin, and quinoline.

17. (previously presented) The liquid crystal display according to claim 13, wherein the photo-dimerization-reactive compound is at least one selected from dimerization-reactive polymers represented by the following formulae:



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in which  $A^1$  and  $B^1$ : 1,4-phenylene, a covalent single bond, pyridine-2,5-diyl, pyrimidine-2,5-diyl, 1,4-cyclohexylene or 1,3-dioxane-2,5-diyl;

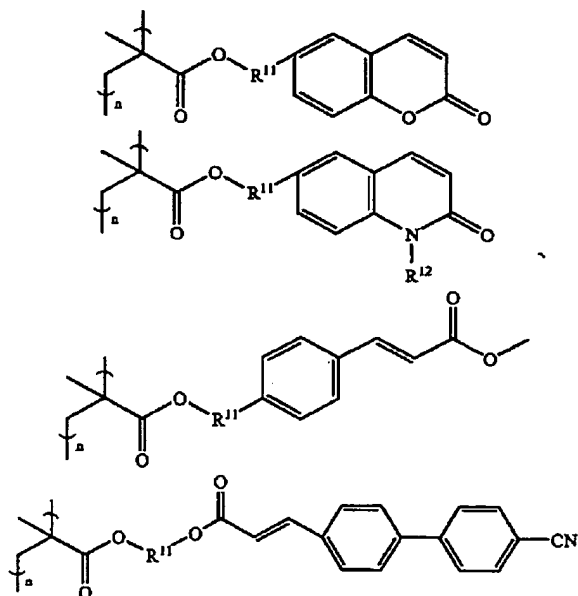
$Z^{11}$  and  $Z^{12}$ :  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{COO}-$ ,  $-\text{OOC}-$ , or a covalent single bond;

$t$ : an integer of 0 to 4;

$R^{12}$ : a lower alkyl; and

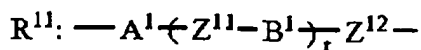
$n$ : an integer of 4 to 30,000.

18. (previously presented) The liquid crystal display according to claim 15, wherein the photo-dimerization-reactive compound is at least one selected from dimerization-reactive polymers represented by the following formulae:



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in which A<sup>1</sup> and B<sup>1</sup>: 1,4-phenylene, a covalent single bond, pyridine-2,5-diyl, pyrimidine-2,5-diyl, 1,4-cyclohexylene or 1,3-dioxane-2,5-diyl;

Z<sup>11</sup> and Z<sup>12</sup>: —CH<sub>2</sub>—CH<sub>2</sub>—, —COO—, —OOC—, or a covalent single bond;

t: an integer of 0 to 4;

R<sup>12</sup>: a lower alkyl; and

n: an integer of 4 to 30,000.

19. – 22. (cancelled)

23. (previously presented) The liquid crystal display according to claim 11, wherein the ferroelectric liquid crystal is a liquid crystal which constitutes a single phase.

24. (previously presented) The liquid crystal display according to claim 12, wherein the ferroelectric liquid crystal is a liquid crystal which constitutes a single phase.

25. (previously presented) The liquid crystal display according to claim 11, wherein the liquid crystal display is driven by an active matrix system using a thin film transistor.

26. (previously presented) The liquid crystal display according to claim 12, wherein the liquid crystal display is driven by an active matrix system using a thin film transistor.

27. (previously presented) The liquid crystal display according to claim 11, wherein the liquid crystal display is displayed by a field sequential color system.

28. (previously presented) The liquid crystal display according to claim 12, wherein the liquid crystal display is displayed by a field sequential color system.